



Identification of Tiny Seed and Fruit Types of Chinese Materia Medica

Semen Plantaginis*



1 cm

Source

The dried ripe seed of *Plantago asiatica* L. or *P. depressa* Willd.# in the family Plantaginaceae

Property and flavour

Cold; sweet

Meridian affinity

Liver, kidney, lung and small intestine meridians

Actions

To clear heat, disinhibit urine and relieve strangury; to drain dampness and stop diarrhoea; to brighten the eyes; to eliminate phlegm

Note:

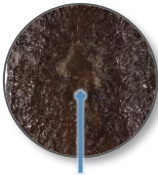
* Its name in Chinese Pharmacopoeia (2020 Edition) is “Plantaginis Semen”.

Only *P. asiatica* is included in this study as currently it is the main species of Semen Plantaginis in the market.

Micro-morphological features

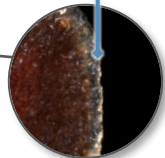
Shape

Sub-elliptical or irregularly oblong



White dented and dotted hilum is observable in the middle of the ventral side

After being soaked in water, epidermis swells to form a transparent mucilaginous membrane surrounding the whole seed



Ventral view



Slightly flat

Lateral view

0.5 mm

Surface

Black, blackish-brown or brown, with fine wrinkles

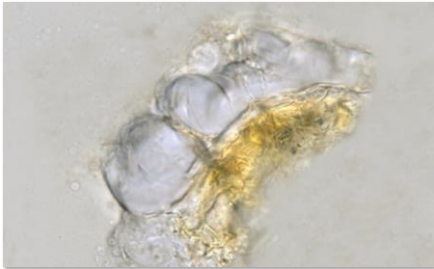


0.2 mm

Powder microscopic features

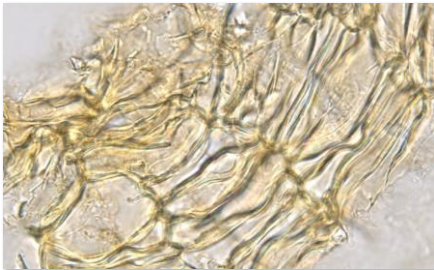
Testa

Outer epidermal cell of testa



Is mostly observed in its lateral side, relatively large, appears sub-square or sub-rectangular, with thin wall, usually adheres to inner epidermal cell of testa

Inner epidermal cell of testa



Light yellow, appears sub-rectangular, sub-square or sub-polygonal in surface view, wall is thin and sometimes slightly wavy

Key identification features

Micro-morphology

- ⊙ Sub-elliptical or irregularly oblong
- ⊙ White dented and dotted hilum is observable in the middle of the ventral side
- ⊙ Surface is black, blackish-brown or brown, with fine wrinkles

Powder microscopy

- ⊙ Outer epidermal cell of testa: is mostly observed in its lateral side, usually adheres to inner epidermal cell of testa
- ⊙ Inner epidermal cell of testa: wall is thin and sometimes slightly wavy

For more information, please refer to [website of the Hong Kong Chinese Materia Medica Standards](#):

Plantaginis Semen – HKCMMS (Vol 5)

Government Chinese Medicines Testing Institute

Department of Health

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